

REMARKS/ARGUMENTS

Claims 1-14 were and remain pending.

Claim Rejections under 35 U.S.C. § 102

The Examiner rejects claims 1-14 under 35 U.S.C. § 102(b) as being anticipated by Miyairi, U.S. Patent No. 5,018,155.

The rejection of claims 1-14 is respectfully traversed. It is respectfully submitted that Miyairi fails to teach, indicate or suggest the embodiments of the present invention as set forth in claims 1-14. In summary, it is respectfully submitted that Miyairi merely discloses a greatly and essentially different technology from the embodiments of the present invention as set forth in claims 1-14, as detailed below.

Miyairi

The gist of Miyairi is expressed by the description in column 7, lines 36-43: "As explained above, according to the present invention, as the variation of the emitted light amount of the semiconductor laser with the variation of the operating current of the semiconductor laser is measured and, in response to the result, the superimposed high frequency amount is varied, there is an effect that the most adapted superimposed high frequency amount can be determined."

Thus, Miyairi as understood discloses a technology of measuring the variation of the emitted light amount of the semiconductor laser represented by η , and making the superimposed high frequency amount vary in response to the result. That is, Miyairi as understood merely discloses a technology characterized by determining the most adapted amplitude of the superimposed high frequency signal, and Miyairi as understood does not disclose a technology of measuring and adjusting the superimposed high frequency.

In the technology disclosed in Miyairi as understood, the following processes (a), (b) and (c) are executed in order to keep the superimposed high frequency at constant value.

(a) The process described in column 3 lines 62-65 (control $\eta \cdot \Delta I_{op}$ kept at constant value and keep ΔP at constant value).

In column 3, lines 62-65, Miyairi describes that “in order to keep the high frequency superimposing amount constant ΔP is made constant. That is to say, $\eta \cdot \Delta I_{op}$ may be controlled to be constant.”

(b) The process described in column 5, lines 9-10.

In column 5, lines 9-10, Miyairi describes that “ η is measured where no high frequency is superimposed.”

(c) The process described in column 5, line 60.

In column 5, line 60, Miyairi describes that η is derived according to the following equation. That is to say,

$$\eta = (P_1 - P_2) / (I_1 - I_2)$$

P: emitted light amount of semiconductor laser (LD)

I: operating current of LD

Thus, as mentioned above, Miyairi as understood discloses the controlling technology to keep ΔP at constant value by using η measured where no high frequency is superimposed. Therefore, in the technology of Miyairi as understood, the result of measuring the superimposed high frequency component is not used in controlling ΔP , and the superimposed high frequency itself is not measured. Accordingly, Miyairi as understood doesn't disclose the means for measuring the superimposed high frequency at all.

Embodiments of the Present Invention

Embodiments of the present invention may be contrasted with the teaching of Miyairi as understood. In the present invention, in order to improve the quality of reproduced signal (see the specification at page 1, lines 6-7), the operations of measuring the superimposed frequency of semiconductor laser simply and accurately and controlling the superimposed frequency of semiconductor laser within the optical disk apparatus are executed. See the specification at page 4, lines 3-11. In particular, the technology of embodiments of the present invention is capable of attaining the objects by measuring the superimposed frequency of semiconductor laser within the optical disk apparatus.

Differences Between Miyairi and the Embodiments of the Present Invention

In making a comparison between Miyairi and the embodiments of the present invention, there are the following differences, among others.

In the embodiments of the present invention, the binary digitizing circuit (element 9 in FIG. 1) and the frequency demultiplying circuit (element 11) correspond to the means for measuring the frequency of the high-frequency current (element 5) produced by the oscillator (element 4). While, in Miyairi, regarding the oscillator (element 6 in FIG. 1), the means for measuring the frequency of high-frequency isn't disclosed, and the output signal isn't measured at all. Furthermore, in the embodiments of the present invention, the remarkable effect of improving the quality of reproduced signal is derived by the characterized construction mentioned above.

In Miyairi, neither the means for measuring the frequency of high-frequency current nor the effect of improving the quality of reproduced signal by controlling the frequency of high-frequency current is disclosed. Each of the independent claims 1, 7-8, 11 and 14 has a feature element of "measuring the frequency of high-frequency current" that greatly differs from Miyairi in this point.

In consideration of the above differences in construction and effect, it is respectfully submitted that Miyairi fails to teach, indicate or suggest the embodiments of the present invention as set forth in claims 1, 7, 8, 11 and 14. Thus, it is respectfully submitted that claims 1, 7, 8, 11 and 14 are allowable, and that the rejection vis a vis Miyairi under 35 U.S.C. § 102(b) cannot stand. It is respectfully submitted that claims 2-6, 9-10 and 12-13 are allowable as claims dependent from their respective parent claims, which are allowable as discussed above.

CONCLUSION

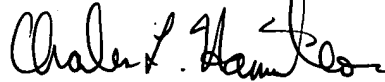
In view of the foregoing, Applicants believe all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Appl. No. 09/943,860
Amdt. dated January 27, 2004
Reply to Office Action of October 6, 2003

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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